

AMENDMENTS TO THE CLAIMS

Listing of Claims

1. (Currently amended) A process for preparing a ~~polymer-coated, granulated~~ enzyme-containing pelletizable feed additive granulate suitable for use in animal feed, which ~~comprises the process comprising:~~
 - (1) ~~mixing together~~ processing a mixture comprising a support suitable for feedstuffs and at least one enzyme to form a crude granulate, a solid support suitable for feedstuffs, water, and at least one additive in an effective amount to form a mixture;
 - (2) ~~coating the crude granulate with an organic polymer which is suitable for feedstuffs, by~~
 - (2a) ~~spraying the crude granulate in a fluidized bed with a melt, a solution or dispersion of the organic polymer or carrying out in a fluidized bed a powder coating with the organic polymer; or~~
 - (2b) ~~coating the crude granulate in a mixer with a melt, a solution or a dispersion of the organic polymer or carrying out the powder coating with the organic polymer~~ mechanically processing the mixture obtained in (1), simultaneously with or subsequently to the mixing, to obtain enzyme-containing granules;
 - (3) drying the granules; and
 - (4) coating the granules obtained in (3) with an organic polymer which is suitable for feedstuffs to obtain enzyme-containing granulates, wherein the enzyme-containing granulate has a pelleting stability greater than uncoated granules.
2. (Currently amended) The process of claim 1 wherein a ~~the~~ mixture comprising the support suitable for feedstuff and a solution of at least one enzyme is processed to form a ~~crude granulate~~ the enzyme-containing granule by extrusion, mixer-granulation, fluidized-bed granulation, disk agglomeration or compacting.

3. (Currently amended) The process of claim 1 wherein the ~~moist erude granulate~~ enzyme-containing granule obtained is spheronized ~~before carrying out the polymer coating prior to drying.~~
4. (Previously presented) The process of claim 1 wherein the granulation and/or polymer coating is carried out continuously or batchwise.
5. (Canceled)
6. (Currently amended) The process of claim 1 wherein the ~~erude granulate~~ enzyme-containing granule is coated with an aqueous or nonaqueous solution or dispersion of the organic polymer.
7. (Currently amended) The process of claim 6 wherein a from 10 to 50% strength by weight aqueous or ~~nonaqueous~~ nonaqueous solution of at least one polymer is used for the coating, which polymer is selected from the group consisting of
 - (a) polyalkylene glycols having a number average molecular weight of from 400 to 15,000;
 - (b) polyalkylene oxide polymers or copolymers having a number average molecular weight of from 400 to 20,000;
 - (c) polyvinylpyrrolidone having a number average molecular weight from 7000 to 1,000,000;
 - (d) vinylpyrrolidone having a number average molecular weight of from 30,000 to 100,000;
 - (e) polyvinyl alcohol having a number average molecular weight of 20,000 to 100,000; and
 - (f) ~~hydroxypropyl~~ hydroxypropyl methyl cellulose having a number average molecular weight from 6000 to 80,000.

8. (Currently amended) The process of claim 6 wherein a from 10 to 40% strength by weight aqueous ~~and or~~ nonaqueous dispersion or solution of at least one polymer is used for the coating, which polymer is selected from the group consisting of
- (a) alkyl ~~(meth)acryl-ate~~ (meth)acrylate polymers and copolymers having a number average molecular weight from 100,000 to 1,000,000; and
 - (b) polyvinyl acetate having a number average molecular weight of from 250, 000 to 700,000 ~~optionally stabilized with polyvinylpyrrolidone.~~
9. (Currently amended) The process of claim 1 wherein a powder coating is carried out with a ~~power~~ powder of a solid polymer which is selected from the group consisting of ~~hydroxypropyl~~ hydroxypropyl methyl celluloses having a number average molecular weight from 6000 to 80,000 mixed with a plasticizer.
10. (Currently amended) The process of claim 1, wherein a melt of at least one polymer is used for the coating, which polymer is selected from the group consisting of:
- a) polyalkylene ~~glycols~~ glycols, having a number average molecular weight from 1000 to 15,000; and
 - b) polyalkylene oxide polymers or copolymers having a number average molecular weight from 4000, to 20,000.
11. (Currently amended) A method for preparing a ~~palletized~~ pelletized feedstuff composition, which ~~method~~ comprises palletizing pelletizing a mixture of animal ~~fee~~ feed constituents and a ~~granulated, polymer-coated feedstuff additive~~ an enzyme-containing granulate suitable for use in animal feed, the enzyme-containing granulate that comprises comprising a solid granulated mixture of at least one enzyme, a solid support suitable for feedstuffs, water, and at least one enzyme additive in an effective amount, wherein the granulate is coated with an organic polymer which is suitable for feedstuffs and selected from the group consisting of:

- a) polyalkylene glycols having a number average molecular weight of from 400 to 15,000;
 - b) polyalkylene oxide polymers or copolymers having a number average molecular weight of from 4000, to 20, 000;
 - c) polyvinylpyrrolidone having a number average molecular weight from 7000 to 1,000,000;
 - d) ~~vinylpyrrolidone/binylacetate~~ vinylpyrrolidone/vinylacetate copolymers having a number average molecular weight from 30,000 to 100, 000;
 - e) polyvinyl alcohol having a number average molecular weight from 20,000 to 100,000;
 - f) hydroxypropyl methyl cellulose having a number average molecular weight from 6,000 to 80,000;
 - g) alkyl (meth)acrylate polymers and copolymers having a number average of molecular weight from 100,000 to 1,000,000; and
 - h) polyvinyl acetate having a number average molecular weight from 250,000 to 700,000 ~~optionally stabilized with polyvinylpyrrolidone~~
- and wherein the granulate has a pelleting stability greater than an uncoated granulate.
12. (Currently amended) The method of claim 11 wherein the additive granulate has a mean particle size from 0.4 to 2 mm.
13. (Currently amended) The method of claim 11 wherein the additive ~~comprised~~ granulate comprises at least one enzyme ~~which is~~ selected from the group consisting of oxidoreductases, transferases, lyases, isomerases, ligases, ~~phosphates~~ phosphatases and hydrolases.
14. (Currently amended) The method of claim 13 wherein ~~they~~ the hydrolase is a non-starch-polysaccharide-cleaving enzyme.

15. (Currently amended) The method of claim 44 13 wherein the ~~phosphatase~~ phosphatase is phytase.
16. (Currently amended) The method of claim 15 wherein the ~~additive-comprised~~ granulate ~~comprises~~ from 1×10^3 to 1×10^5 U of phytase per gram of total weight.
17. (Currently amended) A pelleted feedstuff composition which, comprises at least one ~~enzyme-containing granulate suitable for use in animal feed,~~ polymer-coated-feed additive-as admixture, wherein said additive granulate comprises a solid-granulated mixture of at least one enzyme, a solid support suitable for feedstuffs, water, and at least ~~on-enzyme one additive in an effective amount, the enzyme-containing granulate~~ coated with an organic polymer which is suitable for feedstuffs and selected from the group consisting of:
 - a) polyalkylene glycols having a number average molecular weight from 400 to 15,000;
 - b) polyalkylene oxide polymers or copolymers having a number average molecular weight from 4000 to ~~20,000~~ 20,000;
 - c) polyvinylpyrrolidone having a number average molecular weight from 7000 to 1,000,000;
 - d) ~~vinylpyrrolidone/vinylacetate~~ vinylpyrrolidone/vinylacetate copolymers having a number average molecular weight from 30,000 to 100,000;
 - e) polyvinyl alcohol having a number average molecular weight from 20,000 to 100,000;
 - f) hydroxypropyl methyl cellulose having a number average molecular weight from 6000 to ~~80,000~~ 80,000;
 - g) alkyl (meth)acrylate polymers and copolymers having a number average molecular weight from 100,000 to 1,000,000; ~~a-d~~ and

- h) polyvinyl acetate having a number average molecular weight from 250,000 to 700,000, ~~optionally stabilized with polyvinylpyrrolidone.~~
and wherein the granulate has a pelleting stability greater than an uncoated granulate.
18. (Canceled)
19. (Currently amended) The process of claim 11, wherein the organic polymer coating does not melt during ~~palletizing~~ pelletizing.
20. (Previously presented) The process of claim 1, wherein the organic polymer is filler-free.
21. (Previously presented) The process of claim 1, wherein the coating takes place at from about 35 to 50°C.
22. (Currently amended) A method for improving pelleting stability of a ~~granulated~~ an enzyme-containing ~~feed-additive granulate suitable for use in animal feed~~ comprising applying a an organic polymer coating acceptable as ~~feed-stuff feedstuff~~ onto said ~~granules of said granulated feed granulate~~ in an amount sufficient to improve pelleting stability of said ~~granules~~ granulate when compared with an uncoated granulate.
23. (Currently amended) The method of claim 22, wherein the coating is applied in a proportion of about 3 to 25% by weight of the total weight of the ~~additive~~ granulate.
24. (New) An enzyme-containing granulate coated with an organic polymer obtained by the process of claim 1.
25. (New) A pelletized feedstuff composition obtained by the process of claim 11.